LOW-FLOW DATA FOR SELECTED PARTIAL-RECORD STATIONS IN OHIO

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By Ronald R. Schwartz

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CONVERSION FACTORS

For the convenience of readers who prefer to use metric (International System) units, conversion factors for terms used in this report are listed below:

Multiply inch-pound units	By	To obtain metric units
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
square mile (mi^2)	2.590	square kilometer (km^2)
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)

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ABSTRACT

This report presents low-flow characteristics of the 67 low-flow partial-record stations defined in Ohio since October 1978. Low-flow characteristics presented are the 7-day 10-year low flow, the 7-day 2-year low flow, and the flow equalled or exceeded 90 percent of the time. The 7-day 10-year low-flow ranged from 0 ft^3/s to 239 ft^3/s. The methods used for estimating these characteristics also are discussed.

INTRODUCTION

Knowledge of low-flow data for Ohio streams is essential to the planners and developers of water resources for municipal, industrial, and recreational uses in the State. A stream's adequacy as a water-supply source, its capacity to assimilate liquid wastes, its adequacy as a source for irrigation, and its suitability as a habitat for aquatic life all may be evaluated in terms of its low-flow characteristics (Riggs, 1972, p. 1). Perhaps the most significant use of low-flow estimates is by State and local governmental agencies for determining the permissible rate of waste disposal into a given stream. In Ohio, this permissible rate is based on the 7-day 10-year low flow of the receiving stream (Ohio Environmental Protection Agency, 1978, p. 67).

Previous investigations of the low-flow characteristics of Ohio streams include reports by Cross (1963, 1965, and 1968), by Anttila (1970), and by Johnson and Metzker (1981), the latter report contains low-flow characteristics based on data through the 1978 water year.

Purpose and Scope

The purpose of this report is to present the low-flow characteristics defined at 67 low-flow partial-record stations since 1978. The low-flow characteristics presented in table 1 are the 7-day 10-year low flow ($7Q_{10}$), the 7-day 2-year low flow ($7Q_2$), and the flow equalled or exceeded 90 percent of the time (Q_{90}). The low-flow characteristics for stations included in the previous reports are not repeated in this report.

Acknowledgments

This report was prepared by the U.S. Geological Survey in cooperation with the Ohio Environmental Protection Agency.

METHODS USED TO DETERMINE LOW-FLOW CHARACTERISTICS AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations are stream sites where base-flow measurements have been made over a period of several years (usually two to three measurements per year). Locations of the stations for which data are presented in this report are shown in figure 1. Low-flow partial-record stations do not have enough data available for frequency-curve or flow-duration analyses. Instead, the base-flow measurements are correlated with those from a hydrologically similar continuous-record gaging station (index station) at which the low-flow characteristics are well defined.[1] The correlations are made by plotting on log-log paper discharge measurements of base flow at the partial-record site against the concurrent flows at the index station. A straight line is fit to the plotted points by the linear least-squares method in order to establish the correlation. By determining the low-flow characteristics at the index station, the low-flow characteristics at the partial-record station can then be estimated.

Zero flows do not lend themselves to the correlation method because they cannot be plotted on log-log paper. Partial-record sites with one occurrence of zero flow were assigned a $7Q_{10}$ of zero. Partial-record sites with two or more occurrences of zero flow were assigned $7Q_{10}$, $7Q_2$, and Q_{90} values of zero.

An example of the correlation method is illustrated in figure 2. Concurrent flows are plotted for the index station (Big Darby Creek at Darbyville) and the partial-record site (Little Darby Creek near Irwin). The data used to develop the correlation are:

Data-point Number	Date	Measured discharge, Little Darby Creek near Irwin (ft^3/s)	Measured discharge, Big Darby Creek at Darbyville (ft^3/s)
2	5-09-80	16.7	170
3	9-02-80	27.3	239
4	10-16-80	10.5	62.7
5	7-15-81	15.8	116
6	8-11-81	11.6	72.5
7	4-27-82	18.0	211
8	8-17-82	3.84	30.8
9	10-06-82	4.35	24.9
10	3-09-83	9.85	150
11	8-17-83	5.17	29.0

[1] The low-flow characteristics of the index stations in Ohio were not updated for this report; the last water year used for the low-frequency analysis of the continuous-record stations is 1978.

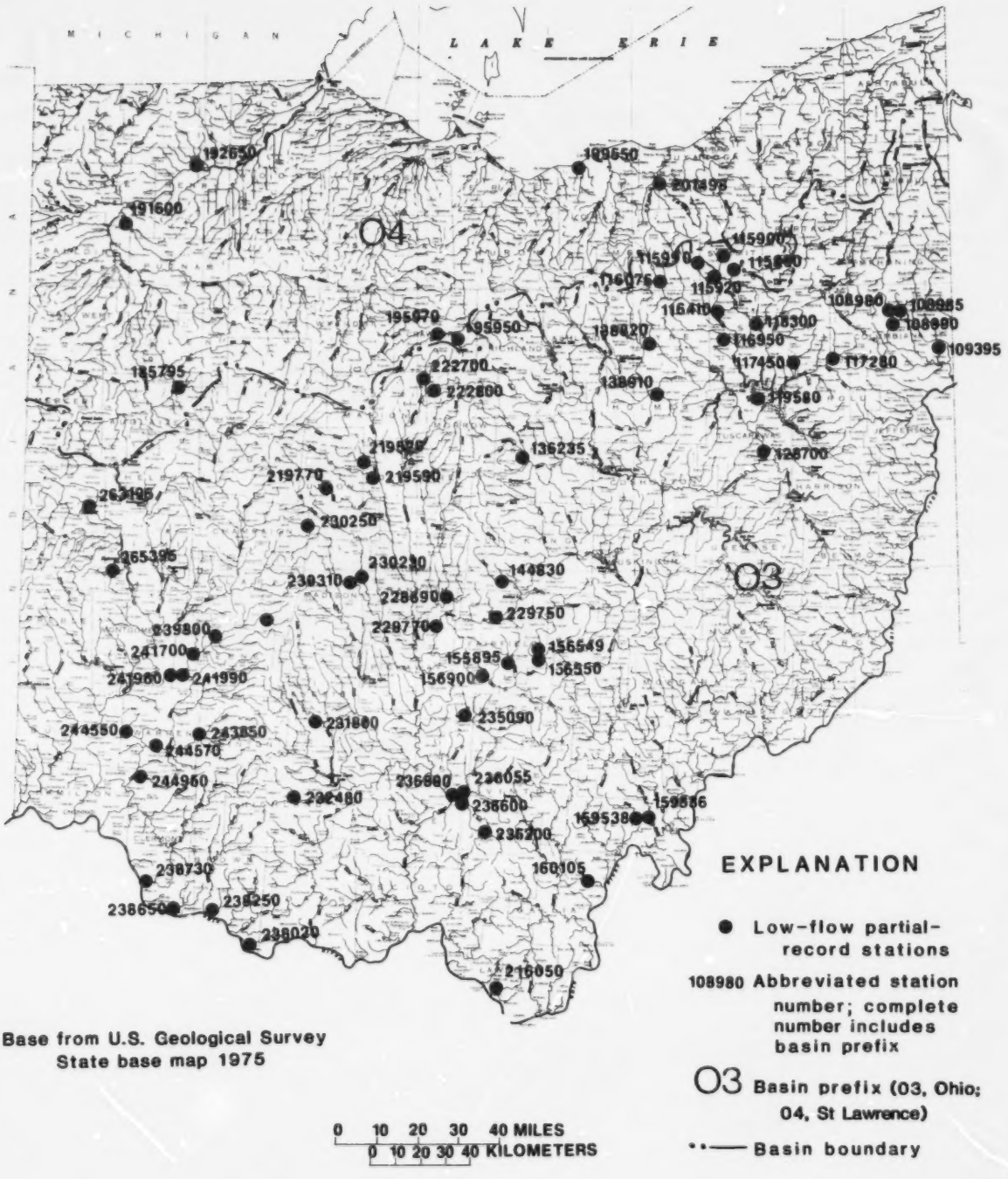

Figure 1.--Locations of the low-flow partial-record stations in Ohio for which data are presented.

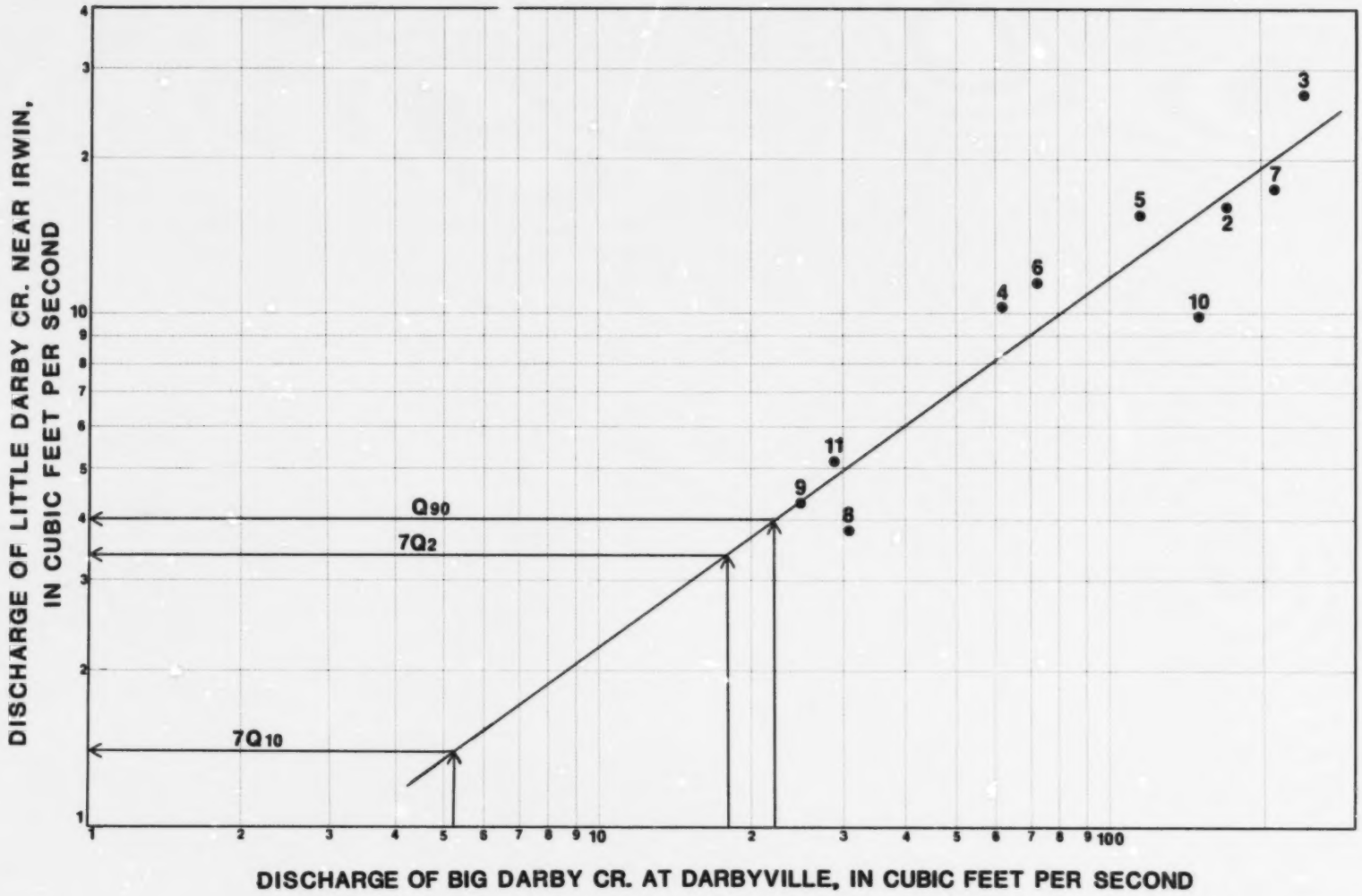

Figure 2.--Relation of daily mean base flows of Big Darby Creek at Darbyville, Ohio, to concurrent flows of Little Darby Creek near Irwin, Ohio.

A straight line is then fit to the plotted points by the linear least-squares method. The $7Q_{10}$, $7Q_2$, and Q_{90} low-flow values for Big Darby Creek at Darbyville are 5.3 ft^3/s. 18 ft^3/s, and 22 ft^3/s; respectively (Johnson and Metzker, 1981). Using the correlation between the two stations, the $7Q_{10}$, $7Q_2$, and Q_{90} low-flow values for the partial-record site are 1.4 ft^3/s, 3.4 ft^3/s, and 4.0 ft^3/s; respectively. The low-flow values at the partial-record site are calculated from the least-squares equation. The plotted points are used for visual verification of consistent data.

SUMMARY

The low-flow characteristics for 67 partial-record sites since October 1978 are tabulated in this report. The low-flow characteristics presented are the 7-day 10-year low flow, the 7-day 2-year low flow, and the flow equalled or exceeded 90 percent of the time. The 7-day 10-year low flows ranged from 0 ft^3/s to 239 ft^3/s.

REFERENCES

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Cross, W. P., 1963. Low-flow frequencies and storage requirements for selected streams: Ohio Department of Natural Resources, Division of Water Bulletin 37. 66 p.

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Table 1.--Low-Flow Characteristics for Partial-Record Sites

[Q_{90}, flow equalled or exceeded 90 percent of the time; $7Q_2$, 7-day 2-year low flow; $7Q_{10}$, 7-day 10-year low flow]

Station number	Station name	Location	Drainage area (mi^2)	Q_{90} (ft^3/s)	$7Q_2$ (ft^3/s)	$7Q_{10}$ (ft^3/s)
03108980	Middle Fork Little Beaver Creek near Salem, Ohio	Lat 40°54'20", long 80°48'17", Mahoning County, Hydrologic Unit 05030101, at bridge on State Highway Alt. 14, 1.1 mi east of Salem. 4 mi upstream from East Branch Middle Fork Little Beaver Creek.	35.7	6.3	5.3	3.9
03108985	Cherry Valley Run at Leetonia, Ohio	Lat 40°52'33", long 80°45'24", Columbiana County, Hydrologic Unit 05030101, at bridge on Madison Street in Leetonia.	11.9	1.4	1.1	0.7
03108990	East Branch Middle Fork Beaver Creek at Leetonia, Ohio	Lat 40°52'16", long 80°45'54", Columbiana County, Hydrologic Unit 05030101, at bridge on State Route 344, 0.6 mi southwest of Leetonia, 1.5 mi upstream from mouth.	28.0	1.6	1.2	0.8
03109395	Bull Creek at Negley, Ohio	Lat 40°47'15", long 80°32'42", 05030101, at bridge on State Route 170, 0.6 mi upstream from mouth, at Negley.	55.4	5.1	3.7	2.1
03115890	Tuscarawas River at Uniontown, Ohio	Lat 40°59'18", long 81°24'04", Stark County, Hydrologic Unit 05040001, at culvert on Pontius Street, 0.9 mi north of Uniontown.	8.26	2.7	2.7	1.8
03115900	Tuscarawas River near East Liberty, Ohio	Lat 41°00'25", long 81°29'31", Summit County, Hydrologic Unit 05040001, at bridge on Arlington Road, 2.3 mi north of East Liberty.	33.1	16	17	12
03115920	Tuscarawas River at Barberton, Ohio	Lat 41°01'40", long 81°35'15", Summit County, Hydrologic Unit 05040001, at bridge on East State Street in Barberton.	72.5	25	25	19
03116075	Chippewa Creek at Seville, Ohio	Lat 41°00'36", long 81°51'53", Medina County, Hydrologic Unit 0504001, at bridge on State Highway 3 in Seville.	44.0	1.3	1.1	0.6
03116410	Nimisila Creek near Canal Fulton, Ohio	Lat 40°54'57", long 81°33'43", Summit County, Hydrologic Unit 05040001, at bridge on State Highway 93. 2.5 mi northeast of Canal Fulton, Stark County.	23.1	4.7	4.8	3.2

Table 1.--Low-Flow Characteristics for Partial-Record Sites--Continued

Station number	Station name	Location	Drainage area (mi^2)	Q_{90} (ft^3/s)	$7Q_2$ (ft^3/s)	$7Q_{10}$ (ft^3/s)
03116950	Newman Creek near Massillon, Ohio	Lat 40°49'22", long 81°33'06", Stark County, Hydrologic Unit 05040001, at bridge on Beaumont Avenue, 1.9 mi upstream from south, 2 mi northwest of Massillon.	38.2	1.3	1.0	0.5
03117280	Hugle Run Malvern, Ohio	Lat 40°42'49", long 81°09'03", Carroll County, Hydrologic Unit 05040001, at bridge on private road, 1,000 ft upstream from mouth, 2.2 mi northeast of Malvern. Water-quality data collected at this site 1976 to 1977.	21.3	1.9	1.6	0.9
03117450	Little Sandy Creek near Robertsville, Ohio	Lat 40°44'03", long 81°14'40", Stark County, Hydrologic Unic 05040001, at bridge on Hillchurch-Wynnfield Drive, 0.7 mi downstream from Black Run, 3.5 mi southwest of Robertsville, and 4.8 mi upstream from mouth.	29.7	4.2	3.6	2.3
03118300	West Branch Nimishillen Creek at Canton, Ohio	Lat 40°47'48", long 81°23'26", Stark County, Hydrologic Unit 05040001, at bridge on Sixth Street, 1.3 mi upstream from mouth at Canton.	43.9	8.2	7.4	5.4
03119580	Tuscarawas River at Zoar, Ohio	Lat 40°36'28", long 81°25'36", Tuscarawas County, Hydrologic Unit 05040001, at bridge on County Road 82, 0.5 mi southwest of Zoar, 3 mi upstream from Conotton Creek.	1,102	216	189	136
03128700	Tuscarawas River at Tuscarawas, Ohio	Lat 41°23'37", long 81°23'26", Tuscarawas County, Hydrologic Unit 05040001, at bridge on County Road 62, 0.4 mi east of Tuscarawas, 2.6 mi downstream from Stillwater Creek. Water-quality data collected at this site 1974 to 1977.	2,367	364	324	239
03136235	Kokosing River near Mt. Vernon, Ohio	Lat 41°25'33", long 82°30'59", Knox County, Hydrologic Unit 05040003, at bridge on county road 1.0 mi upstream from North Branch, 2.8 mi northwest of Mt. Vernon.	100	8.2	7.6	4.9
03138820	Apple Creek at Wooster Ohio	Lat 40°48'13", lng 81°54'20", Wayne County, Hydrologic Unit 05040003, at bridge on Hillcrest Road, 0.5 mi upstream from Little Apple Creek, at Wooster.	33.7	4.5	4.3	3.1

Table 1.--Low-Flow Characteristics for Partial-Record Sites--Continued

Station number	Station name	Location	Drainage area (mi^2)	Q_{90} (ft^3/s)	$7Q_2$ (ft^3/s)	$7Q_{10}$ (ft^3/s)
03138910	Salt Creek at Holmesville, Ohio	Lat 40°38'07", long 81°55'26", Holmes County, Hydrologic Unit 05040003, at bridge on State Highway 83, 0.3 mi north of Holmesville, 0.8 mi upstream from mouth.	42.6	1.5	1.3	0.6
03144830	South Fork Licking River near Millersport, Ohio	Lat 39°56'17", lng 82°32'13", Licking County, Hydrologic Unit 05040006, at bridge on State Route 37, 0.3 mi south of Interstate 70, 2.5 mi north of Millersport.	62.9	2.7	2.4	1.4
03155895	Hocking River at Union Street, Lancaster, Ohio	Lat 39°43'04", long 82°36'35", Fairfield County, Hydrologic Unit 05030204, at footbridge at east end of Union Street, 0.2 mi downstream from 6th Avenue bridge in Lancaster, and 0.8 mi upstream from Hunters Run.	36.2	4.0	3.5	2.3
03156549	Center Branch Rush Creek near Junction City, Ohio	Lat 39°43'24", long 82°20'36", Perry County, Hydrologic Unit 05030204, at bridge on State Route 37, 2.3 mi west of Junction City.	24.9	0.6	0.4	0.2
03156550	Rush Creek near Junction City, Ohio	Lat 39°43'13", long 82°21'01", Perry County, Hydrologic Unit 05030204, at bridge on Flag Dale Road (Perry County Road 23), 0.4 mi downstream from Center Branch, 2.7 mi west of Junction City.	71.0	3.4	2.8	1.4
03156900	Clear Creek at Clearport, Ohio	Lat 39°37'06", long 82°40'50", Fairfield County, Hydrologic Unit 05030204, at bridge on Clearport Road (Fairfield County Road 24), in Clearport, 0.5 mi upstream from Muddy Prairie Run, 8.5 mi south of Lancaster.	47.3	5.2	4.0	2.4
03159536	West Branch Shade River at Chester, Ohio	Lat 39°06'00", long 81°55'33", Meigs County, Hydrologic Unit 05030202, at bridge on State Route 7, 0.2 mi upstream from mouth, 0.9 mi north of Chester.	71.1	2.8	1.5	0.4
03159538	Middle Branch Shade River at Chester, Ohio	Lat 39°06'14", long 81°55'24", Meigs County, Hydrologic Unit 05030202, at bridge on State Route 7, 0.4 mi upstream from mouth, 1.1 mi northwest of Chester.	57.5	2.1	1.1	0.3

Table 1.--Low-Flow Characteristics for Partial-Record Sites--Continued

Station number	Station name	Location	Drainage area (mi^2)	Q_{90} (ft^3/s)	$7Q_2$ (ft^3/s)	$7Q_{10}$ (ft^3/s)
03160105	Campaign Creek near Gallipolis, Ohio	Lat 39°53'51", long 82°11'31", Gallia County, Hydrologic Unit 05030202, at bridge on Bulaville-Porter Road, 5.6 mi upstream from mouth, 5.8 mi north of Gallipolis.	35.5	0.3	0.2	0
03216050	Ice Creek at Ironton, Ohio	Lat 38°31'05", long 82°38'09", Lawrence County, Hydrologic Unit 05090103, at bridge on private road, 0.6 mi east of city limits of Ironton. 2 mi upstream from mouth.	37.2	0.5	0.3	0
03219520	Fulton Creek near Radnor, Ohio	Lat 40°22'17", long 83°11'10", Delaware County, Hydrologic Unit 05060001, at bridge on State Route 257, 0.2 mi upstream from mouth, 2.2 mi southwest of Radnor.	46.9	0.3	0.1	0
03219590	Bokes Creek near Warrensburg, Ohio	Lat 40°19'20", long 83°10'30", Delaware County, Hydrologic Unit 05060001, at bridge on State Route 257, 0.2 mi upstream from mouth, 1.2 mi north of Warrensburg.	83.2	0.1	0	0
03219770	Mill Creek near Broadway, Ohio	Lat 40°17'21", long 83°24'05", Union County, Hydrologic Unit 05060001, at bridge on Cotton Slash Road, 1.0 mi upstream from Otter Run, 3.6 mi south of Broadway.	66.1	1.1	0.6	0.1
03222700	Mud Run near Caledonia, Ohio	Lat 40°41'20", long 82°57'45", Marion County, Hydrologic Unit 05060001, at bridge on Morral-Kirkpatrick Road, 2.6 mi upstream from mouth, 3.5 mi north of Caledonia.	16.1	0.4	0.3	0.1
03222800	Flat Run near Caledonia, Ohio	Lat 40°37'51", long 82°56'53", Morrow County, Hydrologic Unit 05060001, at bridge on Marion Johnsville Road, 0.9 mi upstream from mouth, 1.2 mi southeast of Caledonia.	29.9	0.6	0.4	0.1
03229690	Blacklick Creek near Brice, Ohio	Lat 39°54'18", long 82°50'01", Franklin County, Hydrologic Unit 05060001, at bridge on Brice Road, 0.9 mi south of Brice.	51.6	5.4	5.1	3.8

Table 1.--Low-Flow Characteristics for Partial-Record Sites--Continued

Station number	Station name	Location	Drainage area (mi^2)	Q_{90} (ft^3/s)	$7Q_2$ (ft^3/s)	$7Q_{10}$ (ft^3/s)
03229750	Walnut Creek near Carroll, Ohio	Lat 39°49'07", long 82°40'30", Fairfield County, Hydrologic Unit 05060001, at bridge on Havensport Road, 0.6 mi north of Havensport, 0.8 mi upstream from Poplar Creek, 2.0 mi northeast of Carrol.	69.2	2.5	2.3	1.5
03229770	Walnut Creek near Groveport, Ohio	Lat 39°47'56", long 81°53'55", Franklin County, Hydrologic Unit 05060001, on Franklin-Pickaway County line at bridge on London-Lancaster Road, 3.7 mi south of Groveport.	198	18.4	16.4	11.2
03230230	Big Darby Creek near West Jefferson, Ohio	Lat 39°58'47", long 83°15'57", Madison-Franklin County line, Hydrologic Unit 05060001, at bridge on Hubbard Road, 1.7 mi northwest of West Jefferson, 7.4 mi upstream from Little Darby Creek.	239	7.4	6.0	1.6
03230250	Little Darby Creek near Irwin, Ohio	Lat 40°07'18", long 83°27'22", Union County, Hydrologic Unit 05060001, at bridge on State Route 161, 0.5 mi upstream from Treacle Creek, 1.6 mi east of Irwin.	29.4	4.0	3.4	1.4
03230310	Little Darby Creek at West Jefferson, Ohio	Lat 39°57'04", long 83°16'10", Madison County, Hydrologic Unit 05060001, at bridge on Middle Pike, 0.4 mi north of West Jefferson 7.2 mi upstream from Big Darby Creek.	162	5.1	4.0	0.9
03231800	Sugar Creek near Rock Mills, Ohio	Lat 39°28'10", long 83°26'06", Fayette County, Hydrologic Unit 05060003, at bridge on New Martinsburg Road (State Route 70) 1.5 mi upstream from Paint Creek, 2.3 northwest of Rock Mills.	78.3	0.5	0.2	0
03232480	Clear Creek near Hillsboro, Ohio	Lat 39°12'45", long 83°33'00", Highland County, Hydrologic Unit 05060003, at bridge on U.S. Highway 50, 2.0 mi upstream from dam on Rocky Fork Lake, 3.4 mi east of Hillsboro.	35.4	2.8	2.1	0.8
03235090	Salt Creek at Adelphi, Ohio	Lat 39°28'23", long 82°45'01", Pickaway County, Hydrologic Unit 05060002, at bridge on State Routes 56 and 180, 0.6 mi downstream from Beech Fork, 0.5 mi north of Adelphi.	47.8	1.2	0.9	0.4

Table 1.--Low-Flow Characteristics for Partial-Record Sites--Continued

Station number	Station name	Location	Drainage area (mi^2)	Q_{90} (ft^3/s)	$7Q_2$ (ft^3/s)	$7Q_{10}$ (ft^3/s)
03236055	Middle Fork Salt Creek near Richmond, Ohio	Lat 39°13'00", long 82°45'46", Ross County, Hydrologic Unit 05060002, at bridge on West Junction Road, 0.2 mi upstream from Little Salt Creek, 1.7 mi north of Brocks Corner, 3.0 mi northwest of Richmond Dale.	109	2.3	1.8	0.9
03236200	Little Salt Creek at Jackson, Ohio	Lat 39°03'13", long 82°38'05", Jackson County, Hydrologic Unit 05060002, at bridge on U.S. Highway 35 in Jackson, 0.6 mi upstream from upstream from Horse Creek.	33.6	0.4	0.3	0.1
03236600	Little Salt Creek near Richmond Dale, Ohio	Lat 39°11'27", long 82°46'10", Ross County Hydrologic Unit 05060002, at bridge on State Route 35, 0.4 mi west of Brocks Corner, 2.3 mi upstream from mouth, 2.5 mi east of Richmond Dale.	123	4.5	3.6	1.7
03236800	Salt Creek at Richmond Dale, Ohio	Lat 39°11'53", long 82°48'49", Ross County, Hydrologic Unit 05060002, at bridge on State Route 35, 0.3 mi south of Richmond Dale, 1.2 mi upstream from mouth.	552	13	10	4.5
03238020	Big Threemile Creek near Aberdeen, Ohio	Lat 38°40'22", long 83°44'54", Brown County, Hydrologic Unit 05090201, at bridge on State Highway 763, 1.4 mi northeast of Aberdeen, and 4.4 mi upstream from mouth. Water-quality data collected at this site 1977.	19.7	0	0	0
03238250	Straight Creek near Higginsport, Ohio	Lat 38°47'56", long 83°48'20", Brown County, Hydrologic Unit 05090201, at bridge on Straight Creek Road, 2.8 mi upstream from mouth, and 3 mi east of Higginsport. Water-quality data collected at this site 1976 to 1977.	57.3	0	0	0
03238650	Bullskin Creek near Felicity, Ohio	Lat 38°48'02", lng 84°03'21", Clermont County, Hydrologic Unit 05090201, at bridge on Felicity Cedron Road, just upstream from unnamed tributary on left bank, 0.3 mi downstream from Slickaway Run, and 3.3 mi southeast of Felicity. Water-quality data collected at this site 1976 to 1977.	47.7	0.1	0	0

Table 1.--Low-Flow Characteristics for Partial-Record Sites--Continued

Station number	Station name	Location	Drainage area (mi^2)	Q_{90} (ft^3/s)	$7Q_2$ (ft^3/s)	$7Q_{10}$ (ft^3/s)
03238730	Indian Creek near Point Pleasant, Ohio	Lat 38°53'24", long 84°12'29", Clermont County, Hydrologic Unit 05090201, at bridge on State Highway 232, 1.4 mi east of Point Pleasant, 1.6 mi upstream from mouth. Water-quality data collected at this site 1976 to 1977.	38.7	0.1	0	0
03238950	Little Miami River near South Charleston, Ohio	Lat 39°49'23", long 83°39'40", Clark County, Hydrologic Unit 05090202, at bridge on Clifton Road, 1.4 mi west of South Charleston.	9.75	0.2	0.2	0.0
03263195	Swamp Creek at Versailles, Ohio	Lat 40°12'45", long 84°29'55", Darke County, Hydrologic Unit 05080001, at bridge on State Highway 121, 1.0 mi southwest of Versailles.	58.8	1.2	1.0	0.5
03265395	Ludlow Creek at Ludlow Falls, Ohio	Lat 39°59'52", long 84°20'15", Miami County, Hydrologic Unit 05080001, at bridge on State Highway 48 at Ludlow Falls.	62.9	1.7	1.4	0.5
04185795	Auglaize River near Uniopolis, Ohio	Lat 40°37'11", long 84°07'19", Auglaize Auglaize County, Hydrologic Unit 04100007, at bridge on Mud Sock Road, 0.4 mi upstream from Blackhorse Creek, 2.2 mi northwest of Uniopolis.	89.3	1.2	0.8	0.4
04191600	Powell Creek near Defiance, Ohio	Lat 41°14'19", long 84°21'55", Defiance County, Hydrologic Unit 04100007, at bridge on Watson Road, 2.8 mi downstream from Wagner Run, 3.1 mi south of Defiance.	95.6	0	0	0
04192650	North Turkeyfoot Creek near Liberty Center, Ohio	Lat 41°24'50", long 84°00'34", Henry County, Hydrologic Unit 04100009, at bridge on State Route 109, 2.0 mi south of Liberty Center, 2.2 mi upstream from mouth.	74.2	0.6	0.4	0.2
04195950	Paramour Creek near Leesville, Ohio	Lat 40°48'07", long 82°46'03", Crawford County, Hydrologic Unit 04100011, at bridge on U.S. Highway 30 N, 1.1 mi northeast of Leesville, 1.2 mi upstream from mouth.	27.2	1.2	1.1	0.7

Table 1.--Low-Flow Characteristics for Partial-Record Sites--Continued

Station number	Station name	Location	Drainage area (mi^2)	Q_{90} (ft^3/s)	$7Q_2$ (ft^3/s)	$7Q_{10}$ (ft^3/s)
04195970	Sandusky River near North Robinson, Ohio	Lat 40°50'10", long 82°49'39", Crawford County, Hydrologic Unit 04100011, at bridge on Cox Road, 0.3 mi upstream from Loss Creek, 3.3 mi northeast of North Robinson.	39.7	1.6	1.3	0.6
04199550	Beaver Creek at Amherst, Ohio	Lat 41°25'35", long 82°13'58", Lorain County, Hydrologic Unit 04110001, at bridge on Longbrook Road, 0.2 mi west of northern city limits of Amherst, 0.3 mi downstream from unnamed creek "A", 1.8 mi upstream from mouth.	43.4	1.9	1.6	1.0
04201498	East Branch Rocky River Near Berea, Ohio	Lat 41°24'21", long 81°53'10", Cuyahoga County, Hydrologic Unit 04110001, at bridge on park road in Rocky River Reservation, 0.1 mi upstream from mouth 3.0 mi northwest of Berea.	76.9	3.6	2.5	0.7'

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